

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re: the Patent Application of )  
Joel C. Trusty et al. ) Before the Examiner  
Application No. 10/628,593 ) Matthew J. Daniels  
Filing Date: July 28, 2003 ) Art Unit 1732  
Date: June 1, 2006  
**MOLD AND METHOD FOR MAKING** )  
**A UNIBODY LATHE SPINDLE LINER** )

## **RESPONSE TO OFFICE ACTION**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the Office Action mailed February 22, 2006, in the above application, please consider the following amendment and remarks. This paper is being filed within the first month after the shortened statutory period specified in that Office Action, so Applicants request a one-month extension of time to file this response (to and including June 22, 2006), the fee for which may be charged to USPTO Deposit Account 50-0410. If any other fees are due or overpayments have been made, please charge or credit them to that Deposit Account, but not to include issue fees.

An AMENDMENT TO THE CLAIMS begins on page 2.

Applicants' REMARKS begin on page 5.

## **I. AMENDMENT TO THE CLAIMS**

*Please cancel claim 17 and add new claims 21-29 as follows:*

### **Claims 1-17 (Cancelled)**

**Claim 18 (Withdrawn)** A mold for forming a spindle liner for a turning machine, comprising:

    a hollow elongated tubular portion;

    a hollow mounting-flange forming porting arranged at one end of said tubular portion, the hollow portion of said tubular portion and having a interior diameter greater than interior diameter of the hollow portion of said tubular portion;

    an end cap for placing over the opposing open end of said tubular portion for enclosing the hollow portion of said tubular and mounting-flange forming portions, said end cap having an opening therein allowing for the introduction of molten material therethrough to substantially fill the hollow portion of the mold; and

    a core member extending concentrically within the interior of the mold for defining the cross-dimension of an axial through-opening of the spindle liner once formed, said core element being secured at its opposing ends to maintain said core member in proper concentric orientation within the interior of said mold.

**Claim 19 (Withdrawn)** The mold of claim 18 wherein said core member is secured in proper concentric orientation within the interior of the mold by a pair of threaded pin elements disposed at the opposite ends of said core member.

**Claim 20 (Withdrawn)** The mold of claim 18 wherein the core member is selected dependant upon the maximum cross-non-dimension of the workpiece to be machined.

**Claim 21 (New)** A method for manufacturing a spindle liner for manipulating a workpiece on a turning machine, wherein the spindle of the turning machine has an inner diameter, the method comprising:

placing a core element within a tubular mold section, where the core element is slightly larger in cross-section than the workpiece, and the mold section has an inner dimension slightly smaller than the inner dimension of the spindle;

securing the core element within the tubular mold section using a cap that fits at least partially in the tubular mold section, thereby defining an interior void of the mold;

introducing liner material in a molten state into the interior of the mold through a fill hole until the interior void is substantially filled; and

allowing the liner to set up for an appropriate length of time to permit the material to cure to a sufficient state of hardness.

**Claim 22 (New)** The method of claim 21, wherein the liner material is polyurethane.

**Claim 23 (New)** The method of claim 21, wherein the liner material is plastic.

**Claim 24 (New)** The method of claim 21, wherein the core element has a substantially circular cross-section.

**Claim 25 (New)** The method of claim 21, wherein the core element has a substantially square cross-section.

**Claim 26 (New)** The method of claim 21, wherein the core element has a substantially hexagonal cross-section.

**Claim 27 (New)** The method of claim 21, wherein the core element has a substantially octagonal cross-section.

**Claim 28 (New)** The method of claim 21, wherein the workpiece is extruded stock.

**Claim 29 (New)** The method of claim 21, further comprising assembling a flange-forming mold portion to the tubular mold section, where the flange-forming mold portion provides a suitable mounting flange on the spindle liner for use with the turning machine.

**Claim 30 (New)** The method of claim 29, wherein the securing step also uses the flange-forming mold portion to secure the core element.

**Claim 31 (New)** The method of claim 21 wherein the securing step comprises securing the core element in a fixed orientation within the interior of the mold by a pair of threaded pin elements disposed at opposite ends of the core element.

**Claim 32 (New)** A method for manufacturing a spindle liner for manipulating a workpiece on a turning machine, wherein the spindle of the turning machine has an inner diameter, the method comprising:

selecting a core element from among a plurality of core elements, where the selected core element is slightly larger in cross-section than the workpiece;

selecting a tubular mold section from among a plurality of tubular mold sections, where the selected tubular mold section has an inner dimension slightly smaller than the inner dimension of the spindle;

placing the selected core element within the selected tubular mold section;

securing the selected core element within the selected tubular mold section using a cap that fits at least partially in the selected tubular mold section, thereby defining an interior void of the mold;

introducing liner material in a molten state into the interior of the mold through a fill hole until the interior void is substantially filled; and

allowing the liner to set up for an appropriate length of time to permit the material to cure to a sufficient state of hardness.

**Claim 33 (New)** The method of claim 32, wherein the liner material is polyurethane.

**Claim 34 (New)** The method of claim 32, wherein the liner material is plastic.

**Claim 35 (New)** The method of claim 32, wherein the selected core element has a substantially circular cross-section.

**Claim 36 (New)** The method of claim 32, wherein the selected core element has a substantially square cross-section.

**Claim 37 (New)** The method of claim 32, wherein the selected core element has a substantially hexagonal cross-section.

**Claim 38 (New)** The method of claim 32, wherein the selected core element has a substantially octagonal cross-section.

**Claim 39 (New)** The method of claim 32, wherein the workpiece is extruded stock.

**Claim 40 (New)** The method of claim 32, further comprising assembling a flange-forming mold portion to the selected tubular mold portion, where the flange-forming mold portion provides a suitable mounting flange on the spindle liner for use with the turning machine.

**Claim 41 (New)** The method of claim 40, wherein the securing step also uses the flange-forming mold portion to secure the selected core element.

**Claim 42 (New)** The method of claim 32 wherein the securing step comprises securing the selected core element in a fixed orientation within the interior of the mold by a pair of threaded pin elements disposed at opposite ends of the selected core element.

## II. **REMARKS**

The Office Action mailed on February 22, 2006 (the “Office Action”) rejected claim 17 under 35 U.S.C. § 112, second paragraph, as indefinite in its use of “appropriate” as a claim term. The Office Action also rejected claim 17 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 3,333,300 to Cohan, and further rejected that claim as obvious over the combination of Cohan and U.S. Patent No. 1,909,135 to Svenson. In this Response, applicants present the new claims as shown above, which the undersigned believes recite methods that are neither shown nor suggested in those references.

It may be observed that claim 21 recites, among other things, “placing a core element within a tubular mold section, where the core element is slightly larger in cross-section than the workpiece, and the mold section has an inner dimension slightly smaller than the inner dimension of the spindle; . . . .” The Cohan patent, on the other hand, being directed “to a mold structure which provides a mold for making a roller, for example, on the rolling surface of which there is no gate vestige or mold part line,” makes no mention of core element dimensions in relation to any workpiece, nor to a “mold section [that] has an inner dimension slightly smaller than the inner dimension of [any] spindle” whatsoever. New claim 21, therefore, is neither anticipated by nor obvious in light of the Cohan reference. Claim 31 also recites steps taken with similar “core elements,” and those steps are neither shown nor suggested by Cohan. Furthermore, Svenson relates to spindles, not spindle liners, and further that Svenson neither shows nor suggests a “core element” characterized as in the present claims 21 or 31. Because of these missing elements, the rejections under §§ 102 and 103 do not apply to claims 21 or 31, nor to any claim depending therefrom.

The present Response is believed to put the application in condition for allowance, and prompt action by the Office toward that end is respectfully requested. In the event any issue(s) remain that may be resolved by telephone, the undersigned invites the Examiner to contact the undersigned by telephone to expedite the examination of this application. Thank you.

Respectfully submitted,

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